

THE ACME SUCTION MACHINE OPERATING INSTRUCTION MANUAL

TABLE OF CONTENT

- 1 - INTRODUCTION
- 2 - GENERAL SAFETY PRECAUTIONS
- 3- EQUIPMENT SAFE MAINTENANCE AND OPERATION
- 4 - LANDING THE PULLING CABLE TO THE HOST PIPE
- 5 - BEFORE YOU USE THE ACME SUCTION MACHINE
- 6- ACME SUCTION MACHINE BASICS
- 7 – USING THE ACME SUCTION MACHINE
- 8 - IF NECESSARY, ADD LUBRICANT TO THE HOST PIPE

1-INTRODUCTION

Many times, the most difficult step in pipe pulling is getting the pulling cable landed to the host pipe. Use of The ACME Suction Machine makes this step easy. However, safety needs to be the greatest consideration before and during The ACME Suction Machine operation. There are inherent risks to The ACME Suction Machine operation that must be addressed through safe work practices. These safe work practices start with every operator reading and understanding the operating instructions manual prior to using The Acme Suction Machine. This manual should be made available at the work site for as-needed review by the operators during use.

2- GENERAL SAFETY PRECAUTIONS

- WEAR PPE's
At all times when operating The ACME Suction Machine, wear appropriate personal protective equipment: Eye Protection, Hearing Protection, and Head Protection.



Protect your EYES during use



Protect EARS from loud machine noise



Protect your HEAD while using

3-EQUIPMENT SAFE MAINTENANCE AND OPERATION

- Maintain The ACME Suction Machine to prevent safety issues and mechanical breakdowns. Keep guards in place, follow the lubrication schedule, and replace worn components.
- Inspect The ACME Suction Machine for damage prior to each use. If The ACME Suction Machine makes unusual sounds or behaves abnormally, stop using it and check for damage.

4 - LANDING THE PULLING CABLE TO THE HOST PIPE

Many times, the most difficult step in pipe pulling is getting the pulling cable landed to the host pipe. We recommend the following processes to accomplish the required outcome.

- a) First, try simply pushing in the MAX pulling cable. If it gets through, mission accomplished.
- b) If that doesn't work, try pushing in a Fiberglass Duct Rodder. Once through, connect the Rodder to the ¼" Leader Cable or to the MAX Pulling Cable and pull in the attached cable.
- c) If that doesn't work, use the ACME Suction Machine.

5 - BEFORE YOU USE THE ACME SUCTION MACHINE

Site Preparation

- a) Follow federal, state, and local regulations for promoting safe road, sidewalk and excavation site conditions.

- b) Dig to expose the host water line on both ends and prepare the access pit for the Acme Pipe Winch. There should be a flat, vertical wall surface for the Acme Pipe Winch to pull against with approximately 8” clearance from the host water line to the left, 8” to the right and 8” below so the winch and face plate can make solid contact to the access pit front vertical wall.

6 - ACME SUCTION MACHINE BASICS

This commercial grade vacuum pump is a smaller, portable version of the hydrovac truck, utilizing the same principal component - a positive displacement blower. The use of the Acme Suction Machine and the addition of a biodegradable vegetable oil or liquid soap in a multi-step process aids in the insertion of the pulling cable which is integral to your pipe pulling success. Safely produce high suction used to convey air, water, and lubricants with this compact, portable machine.

Use of the ACME Suction Machine to thread a leader cord through the lateral requires two crew members. One crew member will be in the basement, feeding the leader cord while the other crew member will be outside, applying the suction at the pipe end to draw the leader cord through the lateral. Use phones or a headset radio to communicate when to stop feeding the leader cord once it emerges from the pipe end.

7 - USING THE ACME SUCTION MACHINE

- a) Safely park The ACME Suction Machine on a flat surface, maintaining a minimum distance of 3’ away from the excavation pit edge.
- b) Expose and cut the host pipe on each end
- c) Start The ACME Suction Machine and attach the suction hose to the host pipe in the access pit. While under suction, maintain control of the suction hose end to avoid vacuuming up loose soil and water, and avoid personal injury.
- d) From inside, feed the braided Dacron 200# cord having a “feather”, tassel, or ear plug tied to the leading end. The high suction will pull the cord through the pipe.
- e) From outside, check at the connection point of the suction hose to the host pipe in the access pit frequently to observe when the cord is through the length of the host pipe.
- f) When you see the cord in the access pit, turn off The ACME Suction Machine.

- g) From inside, cut the length of cord at the spool, and tie the cord end to the ACME ¼” leader cable.
- h) In unison, one person pulls the cord from outside, while the person inside pushes the ¼” cable in. Continue until the ¼” cable exits the host pipe in the access pit. Go easy when pulling the cord to not break it. Pull the ¼” cable until there is approximately 2’ remaining inside, being close to the host pipe. Be careful to not pull the ¼” cable into the host pipe.
- i) Inside, connect the ¼” leader cable to the MAX Pulling cable using 3 loops of 1/16” wire cable coupled with a press-fitted copper ferrule crimped in place.
- j) Again, in unison, one person pulls the ¼” cable from outside, while the person inside pushes the MAX Pulling cable in. Continue until the MAX Pulling cable exits the host pipe in the access pit. Pull the MAX Pulling Cable through until there is approximately 2’ remaining inside, being close to the host pipe. This allows for a comfortable workspace to make the connection of the new pipe to the ACME Splitter head or Puller head tooling swivel.

8 - IF NECESSARY, ADD LUBRICANT TO THE HOST PIPE

If either the ¼” leader cable, or the ACME MAX Pulling cable is difficult to pull in, introduce a lubricant - VEGETABLE OIL or LIQUID SOAP into the pipe. (approximately a pint per 50’ of pipe length).

- a) Having re-attached the suction hose to the host pipe in the access pit, start the suction machine. From the basement, add the lubricant. Stop adding the lubricant when it is detected at the access pit.
- b) Once the lubricant has been successfully added, remove the suction hose and now continue with the previous step - landing either the ¼” leader cable or the MAX pulling cable.
- c) Once the MAX Pulling Cable has been landed to the length of host pipe, separate the leader cable from the pulling cable by cutting the 1/16” joining cable connection with wire snips.

The addition of the lubricant will allow the cable to glide in much easier.

Having successfully landed the Acme MAX pulling cable to the host pipe, and connected the new pipe in the basement, set the Acme Pipe Winch to the access pit. Connect the MAX pulling cable to the winch drum and make the pull.